

REMARKS

Claims 1-20 are currently pending, of which claims 1-3, 5-8, 12 and 16-20 have been rejected and of which claims 4, 9-11 and 13-15 have been objected to. Applicants thank the Examiner for the indication of allowable subject matter in claims 4, 9-11 and 13-15.

Claim Rejections Under 35 U.S.C. § 102

1. Claims 1-2, 5-8, 12 and 16-20 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,230,697 to Itoyama (“Itoyama”). Applicants respectfully traverse this rejection.

Itoyama cannot anticipate independent claims 1, 16 or 17, or any claim depending therefrom, because it does not teach every element of these claims. See MPEP §2131, (*quoting Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (“[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference”)).

Independent claim 1 recites, “when opening the EGR valve from a fully closed state, the controller performs EGR primary control to restrict the opening degree of the EGR valve to a restricted opening degree that is smaller than the target opening degree during a predetermined delay time before actuating the EGR valve to the target opening degree.”

Referring to this claimed feature, the Office Action refers to “Fig. 43 and the accompanying description in Itoyama et al.” See Office Action at page 2, paragraph 2, end. However, Figs. 43A to 43F and the accompanying description (Itoyama, column 28, lines 12-31) do not teach or suggest Applicants’ claimed feature, as described above.

Rather, figures 43A to 43F of Itoyama are timing charts explaining effects obtained by the system of the third embodiment of Itoyama. Fig. 43C shows that the target EGR rate is decreased when the engine load is rapidly increased as shown in Fig. 43A. Further, Itoyama describes, "even in a transient engine operating condition such as during hard acceleration, the system of the third embodiment can insure an optimal high-precision EGR control" (Itoyama, column 28, lines 9-12) and "in case of the system of the third embodiment there is a tendency that NOx emissions tend to slightly increase whereas there is a tendency that particulates tend to remarkably decrease in a transient engine operating condition, i.e., in case of a rapid increase in engine load (the accel-opening Acc or the fuel-injection amount Qsol)" (Itoyama, column 28, lines 24-30).

Figures 43A to 43F and the accompanying description do not teach or suggest that when the EGR valve is opened from a fully closed state, the opening degree of the EGR valve is restricted to a restricted opening degree that is smaller than the target opening degree during a predetermined delay time before the EGR valve is actuated to the target opening degree (emphasis added).

Claim 1 recites EGR primary control that restricts the opening degree of the EGR valve to a restricted opening degree when the EGR valve is opened from a fully closed state. Itoyama does not teach or suggest such EGR primary control, as claimed.

Independent claim 16 recites that when opening the EGR valve from a fully closed state, the controller actuates the EGR valve to the target opening degree after a delay in time that is required for eliminating an excessive difference between an exhaust pressure of the exhaust passage and an intake pressure of the intake passage (emphasis added). This feature is also recited in claim 11, which is considered to be allowable. Applicants respectfully submit that

the Examiner may have inadvertently overlooked this recited feature of claim 16. Since claim 11 has been indicated as being allowable and claim 16 recites the features of claim 11, claim 16 should also be allowable.

Independent claim 17 recites similar features to those recited in independent claim 1. Accordingly, claim 17 is believed patentable over Itoyama for similar reasons as discussed above in connection with independent claim 1.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 1, 16 and 17 and all claims depending therefrom, define patentable subject matter over Itoyama. Withdrawal of the rejection applied to claims 1-2, 5-8, 12 and 16-20 under 35 U.S.C. § 102(b), as allegedly being anticipated by Itoyama, is respectfully requested.

2. Claims 1-3, 5-8, 12 and 16-20 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,604,361 to Buckland et al. (“Buckland”). Applicants respectfully traverse this rejection.

Buckland cannot anticipate independent claims 1, 16 or 17, or any claim depending therefrom, because it does not teach every element of these claims. See MPEP §2131.

As set forth above, independent claim 1 recites, “when opening the EGR valve from a fully closed state, the controller performs EGR primary control to restrict the opening degree of the EGR valve to a restricted opening degree that is smaller than the target opening degree during a predetermined delay time before actuating the EGR valve to the target opening degree.”

The Office Action states, “With reference to the last limitation, for example in the last paragraph in claim 1, see Fig. 2 and the accompanying description in Buckland et al.”

However, Fig. 2 and the accompanying description (column 7, lines 52-65) in Buckland do not teach or suggest the claimed feature set forth above.

In contrast, Figure 1 of Buckland describes an EGR valve 34 and a turbocharger (VGT) 14. Fig. 2 merely shows a position of a VGT vane 44, but does not show the opening degree of the EGR valve 34. Buckland does not teach or suggest the claimed EGR primary control, i.e., that when the EGR valve is opened from a fully closed state, the opening degree of the EGR valve is restricted to a restricted opening degree that is smaller than the target opening degree during a predetermined delay time before the EGR valve is actuated to the target opening degree (emphasis added).

Independent claim 16 recites that when opening the EGR valve from a fully closed state, the controller actuates the EGR valve to the target opening degree after a delay in time that is required for eliminating an excessive difference between an exhaust pressure of the exhaust passage and an intake pressure of the intake passage (emphasis added). This feature is also recited in claim 11, which is considered to be allowable. Applicants respectfully submit that the Examiner may have inadvertently overlooked this recited feature of claim 16. Since claim 11 has been indicated as being allowable and claim 16 recites the features of claim 11, claim 16 should also be allowable.

Independent claim 17 recites similar features to those recited in independent claim 1. Accordingly, claim 17 is believed patentable over Buckland for similar reasons as discussed above in connection with independent claim 1.

For at least the foregoing reasons, Applicants respectfully submit that independent claims 1, 16 and 17 and all claims depending therefrom define patentable subject matter over

Buckland. Withdrawal of the rejection applied to claims 1-3, 5-8, 12 and 16-20 under 35 U.S.C. § 102(b), as allegedly being anticipated by Buckland, is respectfully requested.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all claims, as currently presented, define patentable subject matter over the cited art. Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

Respectfully submitted,
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